

AT&T

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NEWSBRIEFS

THE BOARD OF DIRECTORS declared the regular quarterly dividend of 33 cents per share payable Aug. 1, 1995, to shareowners of record June 30, 1995. The common shares dividend will go to about 2.3 million registered shareowners.

AT&T NETWORK SERVICES DIVISION makes upgrades to the AT&T Worldwide Intelligent Network that will increase intelligence, expand capacity and speed voice and data calls. (Story page 3.)

FINANCIAL ANALYSTS are bullish on AT&T as an investment, yet the stock price hasn't risen. CFO Rick Miller sums up the factors that affect investor buying decisions. (Story page 4.)

NETWORK SYSTEMS GROUP'S 5ESS-2000 SWITCH will provide personal communications services and other advanced services thanks to 5E10 software developed with future applications in mind. (Story page 5.)

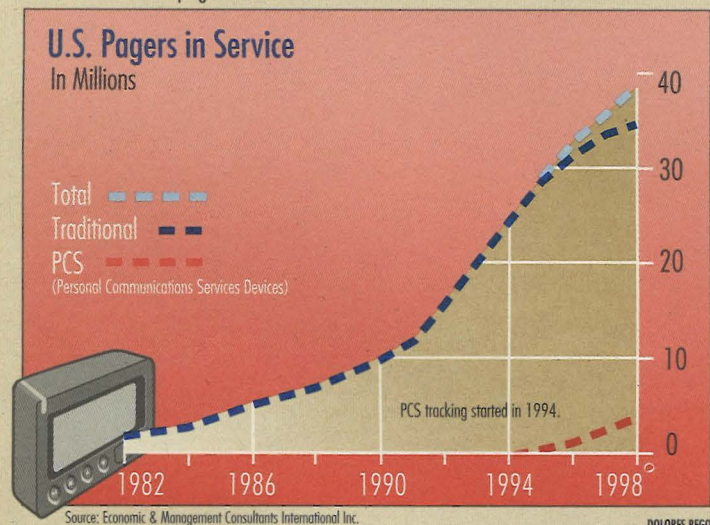
AT&T MICROELECTRONICS TEAMS UP WITH NEC on research agreement to jointly develop advanced logic chips. But technology is not the only result of the cooperative effort. (Story page 11.)

PAYROLL ANALYST LORRAINE TURNER retires this month with 50 years of service. She becomes the 51st living retiree to have reached that milestone. (Story page 12.)

CHECK OUT THE NEW LOOK OF AROUND AT&T. We've added graphics and made the department easier to read. (See page 2.)

MARKETPLACE

Statistics That Are Shaping AT&T's Future



INSIDENEWS

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New AT&T Ads Announce Suite of Products, Services

BY COLLINS YEARWOOD

In the U.S. long-distance market—where customers have learned to hop from company to company looking for the best deal—the time had come for AT&T to shift the focus from price to value.

CAPITALIZING ON ITS ABILITY to satisfy consumers' end-to-end communications needs, three AT&T business units—Consumer Communications Services (CCS), Consumer Information Services and Consumer Products—in June announced a suite of products and services that reward customer loyalty. The company also rolled out a new advertising campaign called *Your True Choice* that proclaims, "It's all within your reach."

"This isn't a shift away from our core business, it's an enhancement to our core business," said Joseph Nacchio, president, CCS. "At the end of the day, the most important thing about our core business is our customers and the size of our customer base."

Extensive AT&T consumer research indicates that people

Dennis Specht, left, Jon Bentley and Lisa Ricker, developers of the Computer Telephone 8130, put it through its paces.



want: help controlling and managing busy lives, special care and support as they adapt to new technologies, convenience in connecting to the special people in their lives, and easy access to information and entertainment services.

"We're shifting to broader and deeper customer relationships in ways that fulfill what customers want," Nacchio said. "They want to connect to the important people in their lives,

—See CCS, page 9

AT&T, Unions Agree On Three-Year Contract

BY RICH DUNSHEE

SUCCESSFULLY CONCLUDING more than two months of bargaining, AT&T, the Communications Workers of America (CWA) and the International Brotherhood of Electrical Workers (IBEW) reached tentative agreement in early June on a new three-year contract covering more than 100,000 workers.

The proposed contract will:

- Expand and build upon Workplace of the Future, the widely hailed union/management cooperation initiative begun in 1992.
- Establish a stock purchase plan through which employees can buy AT&T stock at a 15 percent discount.

—See UNIONS, page 11



Union negotiators, from left, Larry Mancino and Jim Irvine of the CWA and Bill Davis of the IBEW prepare to begin a late-night bargaining session in Washington, D.C.

AROUND AT&T

WHITE HOUSE SHOWCASE

Thousands of small businesses with ambitious growth plans checked out the latest technology in June at the Global Workplace of the Future exhibit at the White House Conference on Small Business in Washington, D.C.

AT&T participated as a joint underwriter of the exhibit and demonstrated a host of products and services designed to help small businesses compete in the global marketplace. On display were: AT&T Export Hotline, AT&T *Globalyst* Notebook computers, AT&T *Vistium* Personal Video System, AT&T Computer Telephone 8310, AT&T *PassageWay* Telephony Services. AT&T's exhibit also highlighted two new programs designed for the small business market—AT&T *Resources for New Business* and AT&T *Home Business Resources*. The latest in AT&T cordless and cellular telephones, computers and office telecommunications systems also were on display along with information about AT&T's communications services.

GLOBAL PREPAID CARD JOINS THE MILITARY

The convenience of the AT&T Global PrePaid Card has been extended to members of the U.S. military. Soldiers, sailors, marines and flyers will be able to purchase a prepaid card in denominations of \$10, \$20, \$40 or



\$60 on many Army posts and Air Force bases in the United States and overseas, and at selected USO locations overseas. Each time the card is used, the cost of the call is automatically subtracted from the card's face value. Once depleted, the prepaid card, as well as its packaging, can be recycled.

STERLING QUALITY AT&T Paradyne received Florida's first Governor's Sterling Quality Award for outstanding quality efforts. The award is specifically designed to promote, encourage and recognize quality excellence based on the principles of leadership, employee involvement, customer satisfaction and continuous improvement. Other Florida-based recipients included Honeywell Military Avionics, Morton Plant Hospital and Merrill Lynch Insurance of Jacksonville.

GLOBAL INFORMATION SOLUTIONS

CONSOLIDATION

Global Information Solutions will consolidate the manufacturing operations of its Rancho Bernardo, Calif., facility into plant sites in Dublin, Ireland, and Columbia, S.C., during the next six months to achieve greater operational efficiency.

The consolidation will affect 80 of the approximately 1,300 people employed at the 470,000 square foot, four-building, 38-acre campus in suburban San Diego. Engineering and related support activities for AT&T Global Information Solutions large computers, employing over 1,200 people, will not be affected.

"The people affected by the action will be supported by a comprehensive job placement program," said H. Georg Funke, assistant vice president, Manufacturing. "We're looking for jobs within AT&T as well as working with a local employment consultant and local employers. Our goal is 100 percent placement."

CONSUMER PRODUCTS

CLEARER SOUND

Consumer Products introduced its first two cordless phones with 25 calling channels instead of the traditional maximum of 10. The 15 extra channels more than double the chance that cordless phone users will find a free and clear channel whenever and wherever they call. The AT&T 5830 (\$119.99) and 5860 (\$139.99) are the first cordless phones to take advantage of the additional radio frequency space recently allocated by the FCC for use by cordless phones. Both phones will be available at AT&T Phone Centers and at selected national retail chains.



PARTNERS FOR GROWTH

Following its success as a pilot program in Philadelphia and Houston, Partners for Growth, the grant program funded by AT&T Capital Corp. and the American Institute of CPAs (AICPA) has been opened to applicants in the Baltimore area. The program awards \$50,000 in grants to be shared by selected new or start-up businesses that combine a socially responsible mission with a sound business plan. Start-up businesses must demonstrate how their products or services benefit their communities. Grant recipients also receive business counseling from CPA consultants. The deadline for applications, which can be obtained by calling 800-822-8632, is Aug. 1.

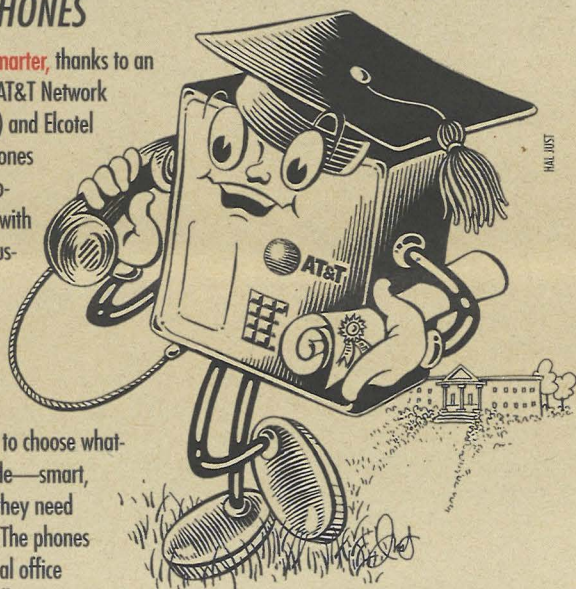
WARNER-LAMBERT PICKS MANDL

Alex Mandl, executive vice president of AT&T and chief executive officer, AT&T Communications Services Group, has been elected to Warner-Lambert's board of directors. Mandl also serves as a director for the Emergency Committee for American Trade, the Walter A. Haas School of Business, Willamette University, AT&T Universal Card Services and Carnegie Hall.

NETWORK SYSTEMS GROUP

SMART PAYPHONES

Payphones will get smarter, thanks to an agreement between AT&T Network Systems Group (NSG) and Elcotel to build smart payphones using an Elcotel micro-processor integrated with AT&T's payphone housing and major sub-assemblies. Both companies will build their own phones, which will offer customers the flexibility to choose whatever intelligence mode—smart, bright or coinline—they need for their payphones. The phones will offer many central office operations such as call management, call rating and billing. NSG will market its AT&T SmartPhone 95 to regulated independent telephone companies and other customers such as hotels/motels, universities, military bases and large government facilities.



LARGE-SCALE AGREEMENT

Network Systems Group and Bechtel National Inc. (BNI) have formally agreed to work together on the construction of large-scale telecommunications networks. The companies will offer their services around the world to telephone and cable companies as well as to a growing variety of companies building full-service broadband networks and PCS/wireless networks, including some of BNI's traditional government and industrial clients with telecom interests. Under the agreement, AT&T and BNI will combine their respective program management experts into teams to work together on activities such as program management, contract administration and construction, with their initial focus on managing certain of the large contracts AT&T has won during the past three years.

START THE PRESSES

AT&T and Xerox Corp. will conduct a market trial of a new network-based printing service that lets businesses deliver documents in multiple sites electronically and have them professionally printed, bound and finished on demand. Printers, publishers and corporate reproduction centers facing cost and short time-to-market pressures are expected to be the first customers for the service. Crestec Los Angeles Inc., Sir Speedy, Unisys Corp. and Xerographic Reproduction Centers have signed up for the trial.

DADS PREFER CALLS

While a colorful tie may be high on some Father's Day gift lists, a phone call to dad is more popular, according to a national survey recently conducted by AT&T Consumer Communications Services. Half of those surveyed said they would call dad on Father's Day, June 18, and an equal number would visit him. AT&T handled a record 107.4 million long-distance and local toll calls this Father's Day, up from 97 million last year. Some of the calls came from personnel aboard more than 60 U.S. Navy ships at sea around the globe. AT&T Maritime Services provided free, three-minute calls from selected ships to the United States. Still, dads lag far behind moms in receiving calls on their special day. This Mother's Day, 126.1 million AT&T calls were logged—17.4 percent more than on Father's Day.



GLOBAL BUSINESS COMMUNICATIONS SYSTEMS

HUBS, SWITCHES AND ROUTERS

Global Business Communications Systems and Bay Networks Inc. signed an agreement for the business unit to sell, service and support Bay Networks internetworking equipment. The agreement responds to growing demands from AT&T business customers for a single source of voice and data networking equipment, service and support, and expertise to help them evolve to integrated voice and data networks. In addition, customers will be able to choose from a variety of service plans for maintenance on products purchased from AT&T Global Business Communications Systems, ranging from basic helpline support to comprehensive on-site service.

AT&T Network Upgrades Add Speed, Reliability... And a Much Higher IQ

BY SUZANNE SIDHU

BRAINS AND BRAWN—the AT&T Worldwide Intelligent Network always has had both. And now, AT&T Network Services Division (NSD) technicians, AT&T Network Systems Group (NSG) production associates and engineers, and AT&T Bell Laboratories scientists have increased its strength and IQ with enhancements designed to take the network well into the 21st century.

The operation was critical to meeting customer demand for capacity and capabilities.

Customers hungry for speed, reliability and the capacity to handle their voice, video, data and imaging information will find the AT&T network ready as a result of ongoing upgrades.

First, NSD technicians performed "brain transplants." Each of the 135 4ESS switches around the country received new NSG-built 1B processors that have

Fast Facts About The Network

The AT&T Worldwide Intelligent Network is the largest, most sophisticated and most reliable communications network in the world. It:

- Provides access to every country in the world (270 countries and territories).
- Provides direct-dial access to more than 200 countries and territories worldwide.
- Has more than 2.75 billion circuit miles of transmission facilities.
- Handles more than 185 million domestic voice, data and image calls on an average business day.
- Is virtually 100 percent digital for all switched traffic.
- Transmits more than 95 percent of all traffic over fiber-optic circuits.
- Has more than 39,000 miles of fiber-optic cable routes in the continental United States.

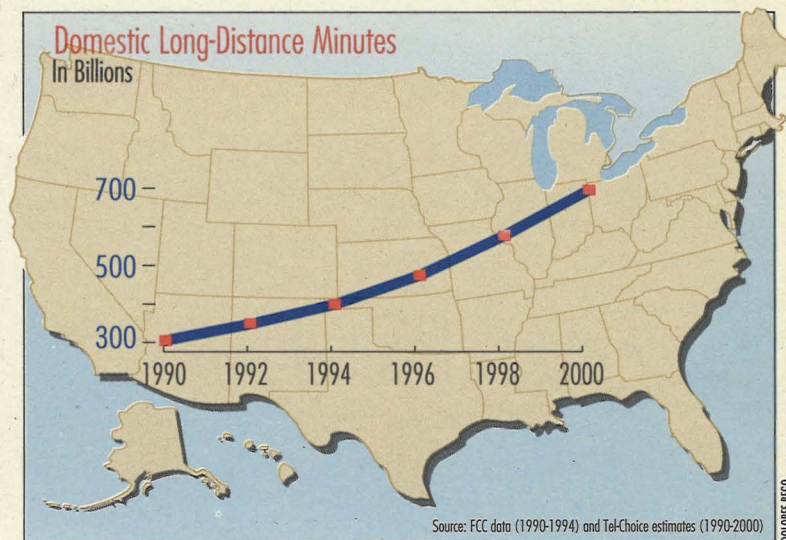
more than doubled the switches' call-handling capacity and boosted processing power for new enhanced services.

The operation was critical to meeting customer demand for capacity and capabilities. Only a year ago, the average number of calls in a business day was 160 million. That figure has ballooned to more than 185 million and is expected to grow steadily. Switches retrofitted with the processors now can handle more than 1 million calls an hour.

Next, NSD turned to incorporating dense wavelength division multiplexing (DWDM) and optical amplification to increase capacity and reliability as well. DWDM allows eight colors of infrared light to be transported down a single fiber-optic strand, increasing its capacity so that 312,000 simultaneous calls can be carried on one fiber.

The optical amplifiers being installed in every 75 miles of cable boost optical signals. They replace older signal regenerators, placed every 25 miles, that first had to convert the optical signals to electrical pulses, and then back to optical signals. The optical amplifiers' simpler procedure and fewer pieces of hardware mean increased reliability.

The technicians also are working on SONET (Synchronous Optical Network) rings that can reverse the ill effects of a



backhoe in the blink of an eye. And they're adding Asynchronous Transfer Mode technology to the data network, so that voice, data and video can all flow down one line, at eyeball-flattening speeds.

The upgraded network will be used first to deliver FASTAR II, the next generation network restoration system that can foil network failures by healing simple cable cuts in milliseconds.

What will the upgrades

mean for AT&T customers? As they add sophisticated hardware and software to their homes and offices during the next few years, they'll find that the muscular, brainy AT&T network can transfer their spreadsheets, video clips, photographs, blueprints, movies or mailing lists anytime, anywhere with the flick of a button or the click of a mouse. And they'll never have to think twice about it. ■

Microelectronics Honors Employees for Diversity Efforts

BY OLLIE HARTSFIELD

SIX AT&T MICROELECTRONICS employees were honored last month for helping to create a work environment that encourages contributions from people of varied experiences, backgrounds and viewpoints. Their efforts were recognized as part of Microelectronics' first annual diversity awards program.

The program, announced last year, honors the outstanding efforts of individual employees or groups of employees who consistently demonstrate support for

equal opportunity, affirmative action and diversity.

"Achieving global success requires fostering an environment where all people can contribute to the fullest extent of their capabilities, where everyone feels valued," says Curt Crawford, president Microelectronics. "With these awards, we are putting the spotlight on the role models who exemplify this behavior. It is a way of saying that we appreciate your consistent support of diversity, and encouraging everyone in our business to demonstrate this level of commitment."

The Award Recipients

THE DIVERSITY VISIONARY AWARD—Vincent D. Mattera, Jr., head, Semiconductor Laser Technology, Reading, Pa. and Barbara Pordan, conference planning coordinator, Public Relations, Allentown, Pa.

THE AT&T/COMMUNITY PARTNERSHIP FOR DIVERSITY AWARD—Robert Koch, plant director, Orlando, Fla. and Sandy Miller, secretary, Reading, Pa.

THE BOB LISTER DIVERSITY BEACON AWARD—This award was named in memory of a Microelectronics Human Resources manager who, until his sudden death last year, led the subteam that developed Microelectronics' diversity award program. Joseph Dixon, president, project management, Berkeley Heights, N.J., and William Harrod, director, technical education center, Middletown, N.J.

SPECIAL RECOGNITION was given to the Pacific Rim Order Management Project Team (PROMPT) for its achievements as a multicultural team in improving Microelectronics' service to international customers. Team members include: Michael Matyus, Berkeley Heights; Leonard Tan, Singapore; Gunter Englerth, Munich; Kosei Katsuta, Tokyo; Janice Byrne, Framingham, Mass.; Beth Rockwell, Dallas; Reggie Thomas, Berkeley Heights; Judy Rainey, Allentown, Pa.; and David Gilfoil, Berkeley Heights. ■



DENVER—The Network Operations Center here is one of three centers where AT&T Network Services Division technicians monitor the Worldwide Intelligent Network 24 hours a day, every day. The other two centers are in Bedminster, N.J. and Conyers, Ga.

Is Investor Uncertainty Affecting Stock Price?

BY DON FERENCI

BY ALL INDICATORS, AT&T has been on a roll. The company achieved record revenue growth and record earnings in 1994. AT&T gained residential market share for the first time in 15 years. The company completed the McCaw acquisition, a move one financial expert called "somewhere between astute and brilliant." AT&T jumped into new markets with gusto, entering the local toll-call business in 45 states and successfully bidding on wireless licenses in 21 key markets nationwide. Nine out of 10 financial analysts are bullish on AT&T as an investment.

Yet AT&T's stock price hasn't risen along with our earnings and revenues. Why?

Perceived Potential

AT&T isn't alone in its stock price puzzle. Calling 1994 a "bittersweet year for Corporate America," *Business Week* wrote, "It's a story repeated across much of Corporate America. Record profits. Strong sales gains. And a crushing, anticlimactic 'so what?' from investors, who are betting that three years of boom times are drawing to a close."

A company's stock price is determined by what investors are willing to pay for it. And they gen-

Right now, the issue for AT&T's stock, and telecommunications stocks in general, can be summed up in one word—uncertainty.

erally base their buying decisions not just on past performance, but also on perceived potential.

Indicators of past performance include a company's revenue, income growth and the strength of the balance sheet (such as the amount of cash available). Future potential can be judged by the probability of industry growth, a company's position in its industry, and economic trends.

Right now, the issue for AT&T's stock, and telecommunications stocks in general, can be summed up in one word—uncertainty.

"Investors do not

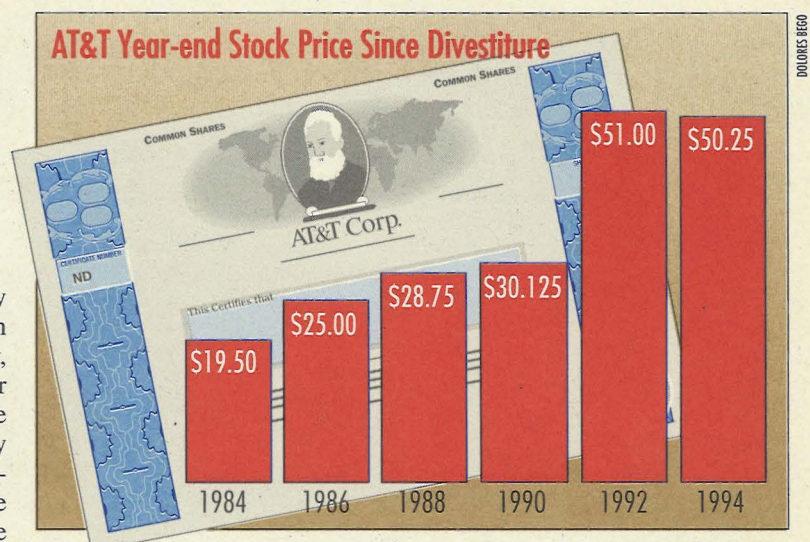
like uncertainty, and they currently see several areas of uncertainty in our industry," said Rick Miller, AT&T's Chief Financial Officer (CFO). "Their concerns range from the unpredictable regulatory environment to intensifying competition, from the increased pace of technological change to large investments in the future."

For example, investors want to know when they'll begin to see a financial lift from AT&T's investment in McCaw and the Federal Communications Commission wireless auctions for Personal Communications Services (PCS). They're also waiting to see how regulatory changes now being debated will increase competition in the local and long-distance service businesses.

Building for the Future

"The challenges and uncertainties we face have never been larger, but it's our job to stay on top of these challenges by building for the future at the same time that we perform in the short term," Miller said.

The CFO Community helps support the company's operations through strategic and forward-looking business analysis. To keep shareowners, analysts and institutional investors up to speed on what's happening at AT&T and why the company is a good investment, the Investor Relations group provides information about AT&T's financial performance, long-term strategy, and day-to-day moves in the fast-paced global marketplace. "Financial analysts and institutional investors are a



savvy group who want to be reassured that AT&T is making the right business moves to fuel earnings growth," said MaryAnn Niebojeski, financial vice president, Investor Relations. "Their job is to buy or recommend stocks that offer attractive returns, and if they're not happy with our performance and direction, they won't recommend AT&T securities."

All employees can help by increasing shareowner value. Shareowner value looks at company earnings in relation to the cost

of investments made. It reflects the return sought by investors to adequately compensate them for assuming the risks of investment.

What are the best ways to increase shareholder value? Be a zealot about managing expenses on the job every day. "Every dollar of cost saving adds a dollar to our bottom line," said Miller. "That's tremendous leverage that we all hold. And that's why we need to be diligent in seeking out expense management opportunities—large and small." ■

New MultiPoint Control Unit Adds Videoconference Sites

BY TOM LANDERS

EXCEPT FOR TWINS AND rainbows, seeing double is usually bad. In the not-too-distant future, videoconference participants will see double twice—but it will be good.

For the first time, as many as four sites will be seen and heard simultaneously on videoconferences using a future capability of the AT&T MultiPoint Control Unit called Continuous Presence. The new feature from AT&T Global Business Communications Systems (GBCS) will allow up to four videoconferencing sites to be continually displayed in four quadrants on the monitor screens at each site. This differs from the usual videoconferencing where the participants can view only one site at any given time.

Customer reaction to the proposed offering has been positive. "We're excited to see AT&T deliver on its promise of innovative solutions for the multipoint conferencing market," said Dick Rossi, director, University Telecommunications Services, California State University, Sacramento.

This new feature, also known as quadrature, is based on international standards for videoconferencing. As a result, it allows Continuous Presence calls between sites with most standards-based desktop or group video systems.

"Continuous Presence provides a more natural conversation environment through increased participation, interaction and involvement," said Martin J. Welt, director, visual communications, GBGS.

AT&T was the first to demonstrate two other multipoint conferencing features last fall: multipoint data sharing simultaneous with voice and video communications, and Universal Conference Control, which allows users to make changes to conferences in progress using any touch-tone phone.

"In our distance-learning application, the Universal Conference Control lets me easily rotate among the participating sites with the touch of a button," said Rossi. "And using AT&T's MultiPoint Control Unit with quadrature will allow for an even more interactive classroom experience."

GBGS representatives demonstrated Continuous Presence last month at the International Teleconferencing Association's annual meeting and trade show in Washington, D.C. Continuous Presence, which will be available early next year, will be an upgrade option for current AT&T MultiPoint Control Unit customers. The AT&T MultiPoint Control Unit is designed by AT&T Bell Laboratories according to processes that conform to ISO 9001 standards. ■

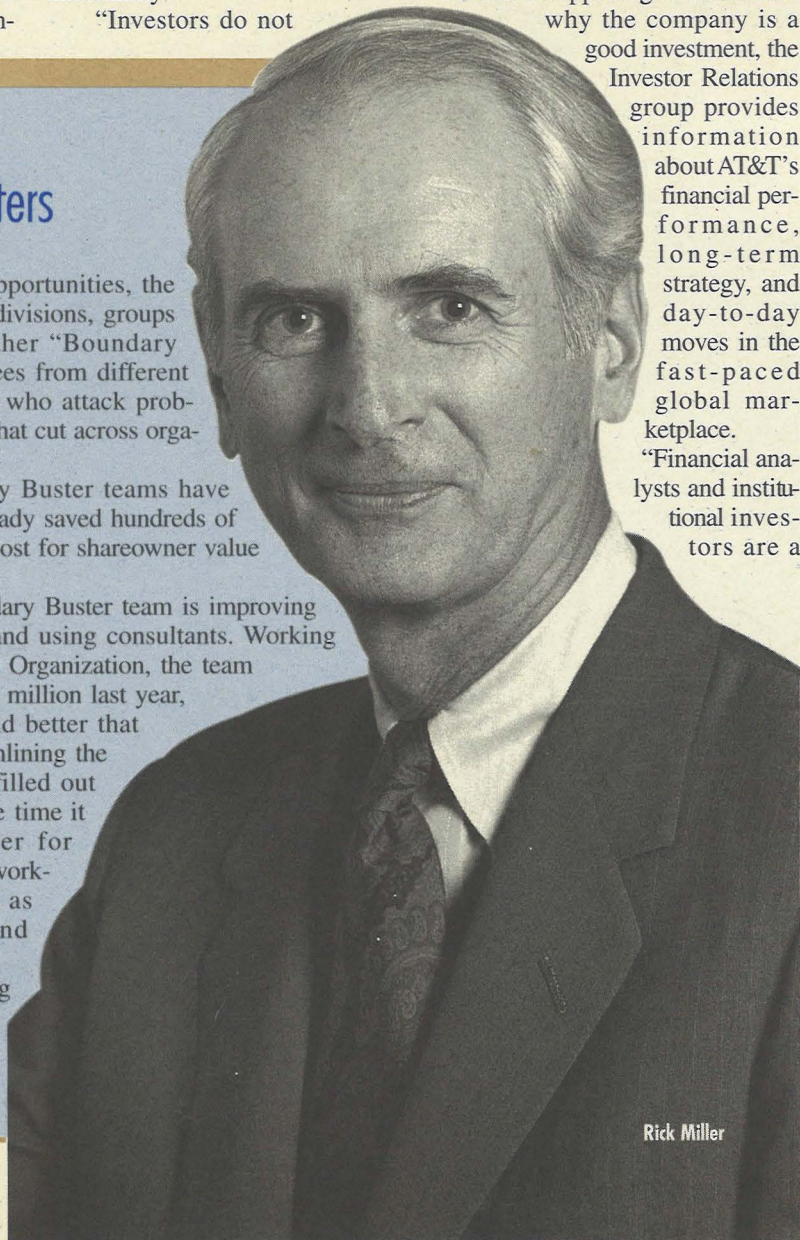
To Save Big Bucks Call Boundary Busters

To tap major cost-cutting opportunities, the CFO is working with other divisions, groups and regions to bring together "Boundary Busters"—teams of employees from different business units and divisions who attack problems and improve processes that cut across organizational boundaries.

More than 25 Boundary Buster teams have been created and they've already saved hundreds of millions of dollars—a real boost for shareowner value and the bottom line.

For example, one Boundary Buster team is improving AT&T's process for hiring and using consultants. Working with the Global Procurement Organization, the team saved AT&T more than \$200 million last year, and this year's savings could better that mark. Another team is streamlining the way expense vouchers are filled out and processed—reducing the time it takes and making it easier for employees. Other teams are working on such expense areas as travel, overnight mail and leasing.

Do you have a cost-saving idea that might be right for Boundary Buster treatment? Call Sara Jane Koperski, 908-221-8563.



Rick Miller



Clockwise from left, software engineers Mitchell Brady, Marge Moreland, Sudha Gouthama and Divakar Pernankil were among hundreds of software developers who worked on the 5E10 software. The software, called "impressive" by industry analysts, gives Network Systems customers more of the features they want, faster than ever before.

5E10 Software Gives NSG Customers More

BY OLLIE HARTSFIELD

AT&T NETWORK SYSTEMS Group (NSG) announced a software release for the AT&T 5ESS-2000 Switch that will allow local telephone companies and other service providers to offer the advanced services that small businesses and professionals-on-the-go want.

The 5E10 software will introduce personal communications services (PCS) capabilities, expand advanced intelligent network (AIN) and ISDN services, and enable service providers to bring new features to customers in less time than ever before.

The release is slated for introduction in September, with general availability in November.

The 5ESS-2000 Switch is the most widely deployed high-capacity digital switch in the world. It has been used in land-line networks for more than a decade, and in wireless networks since early 1994.

Land-line or Wireless Routing

The 5E10 software will allow the 5ESS-2000 Switch to route calling traffic between land-line networks and wireless PCS radio networks. With the AIN features in the 5E10 release, PCS subscribers will have access to a number of new services. Callers using land-line or wireless phones will be able to contact PCS subscribers using a single number.

Adding PCS capabilities onto the 5ESS-2000 Switch is a significant move in NSG's strategy to be a major supplier of wireless

equipment and to help cellular service providers get a piece of the emerging PCS market.

Other Features

With 5E10, AT&T will be the first vendor to offer the National ISDN '96 advanced features, which make it possible for small- and medium-sized businesses to gain easy, high-speed access to the Internet or other information sources.

The software also works with new screen-based residence and small-business telephones like AT&T Consumer Products' 880 and 882 Personal Information Centers, and offers single-touch menu buttons to activate frequently used custom-calling services.

The 5E10 software also will make it easy for NSG to deploy new features quickly—sometimes within weeks after identifying customer needs—and deliver them continuously throughout the year as software updates. This is a break from traditional industry practice in which new features typically are held, to be introduced in the next major software release.

Network providers will be able to handle the explosive growth of toll-free and international phone numbers. The 5E10 software platform supports the 15-digit international dialing plan and allows the toll-free number expansion expected because of impending 800-number shortages.

New Capabilities

With the 5E10 software release, NSG is making it possible

for companies new to the telecommunications industry, like cable TV companies, to quickly become network service providers. At the same time, established players like telephone companies can upgrade

their networks to offer the latest features—such as PCS and AIN services.

"This is one of the most significant software releases Network Systems has made," said

Carly Fiorina, president, North American Region, NSG. "It boosts the unique ability of the 5ESS-2000 Switch to provide services in any medium—voice, data, video and wireless." ■

The Making of 5E10 Software

Developing the 5E10 software platform for the AT&T 5ESS-2000 Switch took two years, involved hundreds of software developers and, in the end, required writing approximately 500,000 lines of new or changed code. It was one of the largest software development projects within AT&T. And the results will give network providers and cellular users more features, faster than ever before.

Where do you start with a project this big?

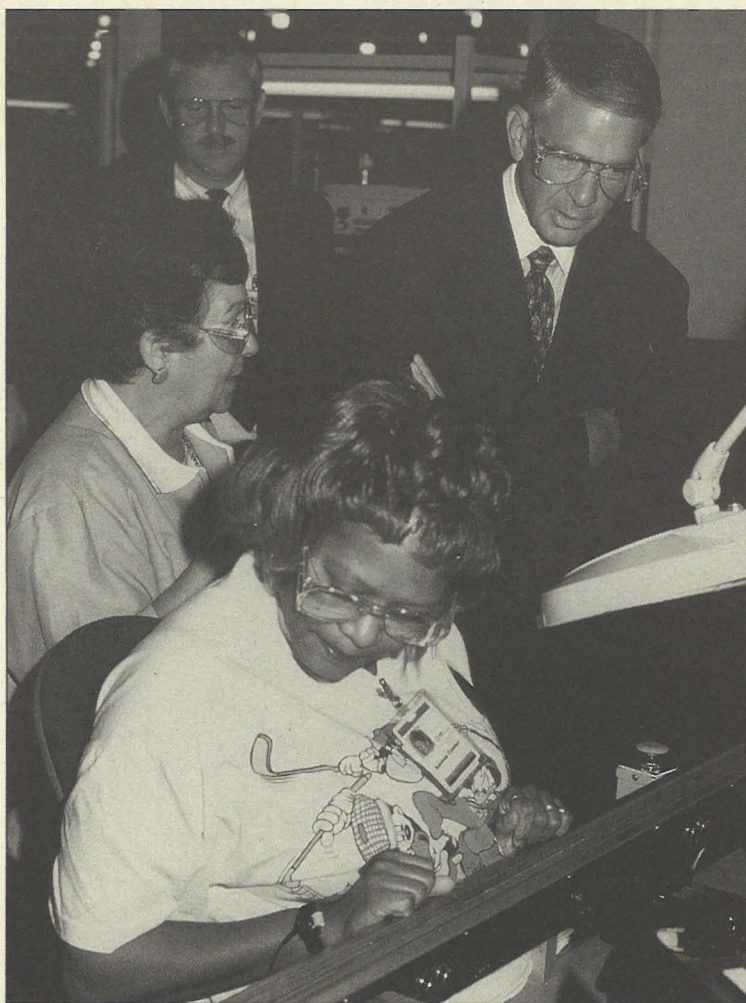
You start with the customer, said Carol Shaffer, one of the technical managers on the 5E10 development project. First, a team of AT&T Network Systems Group (NSG) developers and business managers looked at what features customers wanted. That's not an easy task in the fast-changing telecommunications industry. "NSG business managers need a good crystal ball to predict what customers will want two years down the road when the software is released," said Shaffer. Next, the development team estimated costs, established a time frame for development, and put together a plan.

But plans changed as new features were added later in the development cycle to accommodate more customers' needs. The software team also restructured its development process so that, after the initial release of the 5E10 software, customers could receive new, major features more frequently throughout the year. And in the midst of the development process, the team participated in the formation of Global Public Networks, an offer business unit that brings even more customer focus to NSG.

"The development team constantly adapted to change and at the same time stayed focused on the current work," said Nancy Chapdelaine, another technical manager on the project.

For Chapdelaine, Shaffer, and the rest of the team, the project underscored the importance of being flexible enough to adjust plans to meet the needs of the customer. "If you don't, your work becomes out-of-date very quickly," said Chapdelaine.

Allen Tours Columbus Works



Production Associates Selina Comer, foreground, and Phyllis Davis show Bob Allen a network wireless circuit board. Manufacturing Vice President Ed Hines looks on.

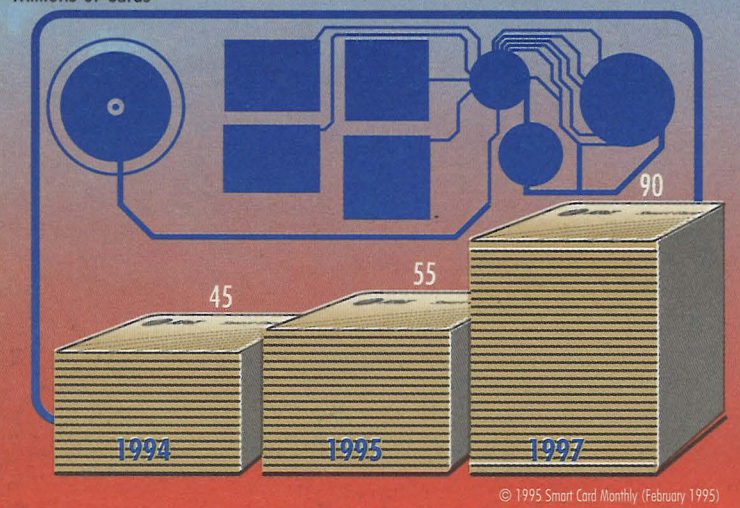
ADDRESSING MORE THAN 200 employees at AT&T Network Systems Group's (NSG) Columbus Works factory in Ohio last month, Chairman Bob Allen underscored the dramatic changes the telecommunications industry is undergoing. He grouped the changes in three broad areas. First, the structure of the U.S. telecommunications industry. Second, the truly global competition being created by the privatization and liberalization of markets all over the world. And third, the explosion in technology for the Information Superhighway.

Focusing on the issue of open competition, Allen said, "What we're after is a marketplace where all customers can easily choose between any number of carriers for all their services—voice, data, long-distance or international. A marketplace where all service providers have full and fair opportunity to compete under the same terms and conditions."

Allen congratulated the NSG workers for their role in making Columbus Works a global leader in manufacturing wireless equipment. Later in the day, Allen addressed the Columbus Council on World Affairs. ■

Smart Cards Worldwide Market Forecast

Millions of Cards



Smart cards with built-in circuitry as depicted above are unique to AT&T.

AT&T Will License Smart Card Technology

BY COLLINS YEARWOOD

RECOGNIZING AN OPPORTUNITY to quickly build market share for a promising technology, AT&T announced in June that it would begin licensing its smart card technology.

"It is the smallest computer you can carry in your wallet or purse."

—Fred Honold

Licensing agreements are being negotiated for AT&T Smart Cards, credit-card sized computers that can be applied to everything from security to cashless purchasing. Featured in AT&T's *You Will* advertising, smart cards have potential applications in electronic cash transactions, transportation access, security, highway toll collections, banking transactions, retail purchases and other uses.

AT&T Smart Cards contain 8-bit microcomputers that can store and process up to eight pages of information. The cards often are referred to as "electronic wallets" or "electronic purses" because cash, credit cards, phone cards, identification and more can be consolidated onto a single smart card. "In effect, it is the smallest computer you can carry in your wallet or purse," said Fred Honold, vice president, Global Markets, AT&T Smart Cards, a unit of AT&T Consumer Products. "It is tough enough and versatile enough to combine the variety of 11 credit and associated plastic

cards that the average consumer carries."

Cashless Commerce

The AT&T Smart Card has been heralded as one of the possible solutions for helping society make the leap to electronic commerce. They already are in use by Delta Air Lines' Shuttle service for ticketless boarding on flights in the northeastern United States, for highway toll collection in Italy, and by a cashless vending machine company (GiroVend Holding Ltd.) in the United States and Europe.

AT&T Smart Cards and Lockheed Martin also are working with companies to develop building security and other sophisticated security applications for the cards, which AT&T itself will be using for employee identification and building security in its offices worldwide.

Biometric Security

Invented at AT&T Bell Laboratories, AT&T Smart Cards use a patented design and interface that can be read by placing the cards on or into ATMs, vending machines, point-of-sale card readers and other devices. Card bearers must pass whatever security tests have been programmed into the cards. The cards may contain a biometric identification ranging from digital photos, fingerprints, voice prints, signatures or other encrypted information. Then, when verified, card holders may gain entry to buildings or computer terminals, complete their purchases, receive boarding passes or conduct dozens of other possible transactions—all with a single card.

AT&T will help customers who license the technology develop applications. Honold said there already are more than a half billion cards in use, primarily in Europe and Asia. ■

NSG Wins \$50 Million Wireless PCS Contract

BY OLLIE HARTSFIELD

HAVING PURCHASED \$7 billion worth of licenses in the recent Personal Communications Services (PCS) auctions, cellular companies are eager to build their PCS networks. One of those companies, New Jersey-based Centennial Cellular Corp., awarded AT&T Network Systems Group (NSG) a five-year, \$50 million contract to build a wireless PCS network in the Puerto Rico market, which includes the Virgin Islands. The deal includes an AT&T 5ESS-2000 Switch DCS, a PCS Access Manager, and up to 100 PCS minicells—all based on Code Division Multiple Access (CDMA) technology.

Besides the revenue, the contract is significant because it is the first sale of PCS equipment for NSG. In an emerging market that some analysts say will see 90 million customers worldwide by 2002, NSG plans to be a major supplier of the PCS network infrastructure.

By choosing CDMA-based equipment, Centennial also is endorsing North American standards for wireless technology (see "Determining the Cellular Standard").

"Centennial wants the best technology available to serve the needs of a sophisticated market-

Determining the Cellular Standard

As the number of cellular users grows, cellular operators are looking for ways to get more capacity out of their networks. That means upgrading their networks from analog technology to digital. Two types of digital technology have been developed to transport Personal Communications Services (PCS) and cellular services in North America: Time Division Multiple Access (TDMA) and Code Division Multiple Access (CDMA). A third technology, the Global System for Mobile Communications (GSM), is the European standard used by several AT&T competitors outside the United States. A key advantage of North American standards is that they operate well with the existing telecommunications network in North America.

Whichever technology the major owners of PCS licenses choose will determine which technology becomes the industry standard. With AT&T Wireless Services (McCaw) using TDMA in its cellular network, and AT&T Network Systems Group (NSG) equipment supporting both TDMA and CDMA, it is easy to see that AT&T wants the North American standard to prevail.

A few weeks before the Centennial contract became public, PrimeCo—a consortium of Air Touch Communications, Bell Atlantic, NYNEX and US West, which was the third largest PCS license winner—announced it would also use CDMA technology for its new PCS network. That's news NSG likes to hear.

place," said Rudy Graf, president, Centennial Cellular Corp. "This CDMA technology offers the quality we believe our customers want today and the functionality to satisfy their needs tomorrow, all delivered in the time frame needed to establish a strong presence in an emerging market."

The 5ESS-2000 Switch DCS will contain the 5E10 software upgrade that allows PCS capabilities and many other new features (see related story on page 5). Installation of Centennial's network will begin in the fourth quarter of this year, and is expected to be completed in mid-1996. ■

AT&T Sponsors Memorial for Servicewomen

BY SUZANNE SIDHU

AT&T SPONSORED THE groundbreaking ceremonies June 22 for the Women in Military Service for America Memorial at the gateway of Arlington National Cemetery.

Dick Lombardi, president, AT&T Government Markets, participated in the ceremony with President Bill Clinton and first lady Hillary Clinton.

The memorial will honor the more than 1.8 million women who have served or are serving in the armed forces, from the American Revolution to the present. The structure will include an Education Center with permanent exhibits, a theater and a computer registry of servicewomen. Through this database, visitors can access photos, military histories, and the individual stories and memories of registered women.

Though construction to repair and restore the cemetery gates is being funded by a grant from Congress, money for the



Dick Lombardi, president, AT&T Government Markets, and actress Loretta Swit present a check to retired Air Force Brig. Gen. Wilma Vaught, president of the board of directors of the Women in Military Service for America Memorial.

building itself must come from fundraising and from corporate, organization and individual donations. AT&T so far is the largest corporate sponsor of the project.

"AT&T is proud to support this effort," Lombardi said. "By honoring military women of today and yesterday, we honor all women who have served our

country because each, through her individual service, has led to the advancement of women."

To register a woman who is currently serving in the U.S. military, or has served in the past, whether she is living or deceased, call 800-4-SALUTE and make her a permanent part of American history. ■

OneVision Adds Services, Products and Applications

BY MARK FEIGHERY

AT&T IN JUNE ANNOUNCED new applications, partnerships and services to enhance its OneVision Network and Systems Management program. Introduced last year, OneVision is the company's strategy and environment for providing corporate telecommunications and information systems customers with an end-to-end network and systems management capability.

AT&T OneVision products and services, cooperatively developed and marketed by AT&T business units, enable customers to effectively manage their converging computing and communications environments. With OneVision, customers can centrally manage all types of information, including voice, data, video, images and audio.

Several AT&T business units, including Global Information Solutions and Business Communications Services, created the OneVision strategy in response to customers' requests for a single point from which to monitor and manage the widely disparate networking components found throughout a corporation.

Some AT&T customers who are using OneVision to better manage their businesses include the Charleston Area Medical Center, Specialty Department Stores Inc. and the U.S. Navy Exchange Command (see "OneVision Buys Navy Store").

OneVision capabilities now include:

Applications for managing both voice and data communications, including desktop PCs, department and enterprise servers, local- and wide-area net-

work hardware, private branch exchanges, channel and data service units, software distribution services, frame relay services and other resources.

Operations Advantage 1,2, which optimizes the capabilities of AT&T's systems management products with integration utilities and brings them into the OneVision environment.

OneVision Node Manager, which provides Hewlett Packard's leading OpenView® man-

agement framework on AT&T hardware.

Retail Enterprise Management, a solution designed to meet the needs of retailers to access, move and manage information in their enterprise for daily business operations.

Integrated services, including a wide array of networking professional and support services that aid customers in developing an optimal network. These services encompass consulting, network architecture planning,

OneVision Buys Navy Store

One customer, the U.S. Navy Exchange Command (NEXCOM) needed exactly what OneVision had to offer. With more than 500 widely dispersed locations, the \$2 billion retail operation is one of the country's largest retail operations. It would rank in the *Fortune* 500 if it were in the private sector.

Adding to the magnitude of NEXCOM's operational complexity is that the range of items it sells is far greater than typical retailers. Its 300,000-plus merchandise offerings encompass, as Sue Dubman, chief information officer, NEXCOM, expresses it, "everything from hot tubs to hot dogs." Tracking such a large number of retail products makes the effective use of information systems resources a must. NEXCOM embarked on an ambitious modernization program that included 486-based PC POS (point-of-sale) systems at each store.

These systems run AT&T UNIX® System V and sophisticated POS software to handle all core operations: sales, layaway, special orders and returns. The POS systems provide price lookups, transaction data collection, credit and check authorization and other key functions.

"It used to be that if a store had a problem, somebody would have to get on a plane and go there," says Dubman. "It was expensive, and resulted in extended downtime for the store." Now when a register or in-store server goes down, two notifications are immediately sent: one to the central site and one to the beeper of the nearest technician on duty. "With our remote capability, we can fix the problem before the store opens in the morning," she says.

The combination of systems design expertise, full understanding of retail information processing issues, and a strong network and systems management solution made AT&T an invaluable resource for NEXCOM's modernization effort. NEXCOM received the full range of products it required to build a complete, high-performance retail operations computing environment, plus the consulting and integration services it needs to be sure that the environment remained as inexpensive as possible to own and run over time. "AT&T has been a wonderful partner in our POS implementation," says Dubman, who estimates the near-term, bottom-line benefit of the complete modernization program at as much as \$100 million.

network design and planning, and network integration and implementation.

AT&T also is delivering Cisco Systems' CiscoWorks™, Cabletron Systems' SPECTRUM®

Portable Management Applications and an integrated version of Remedy Corp.'s Action Request System™ for its OneVision Node Manager platform on AT&T hardware. ■

FCC Acts To Stem The Tide of Slamming

BY OLLIE HARTSFIELD

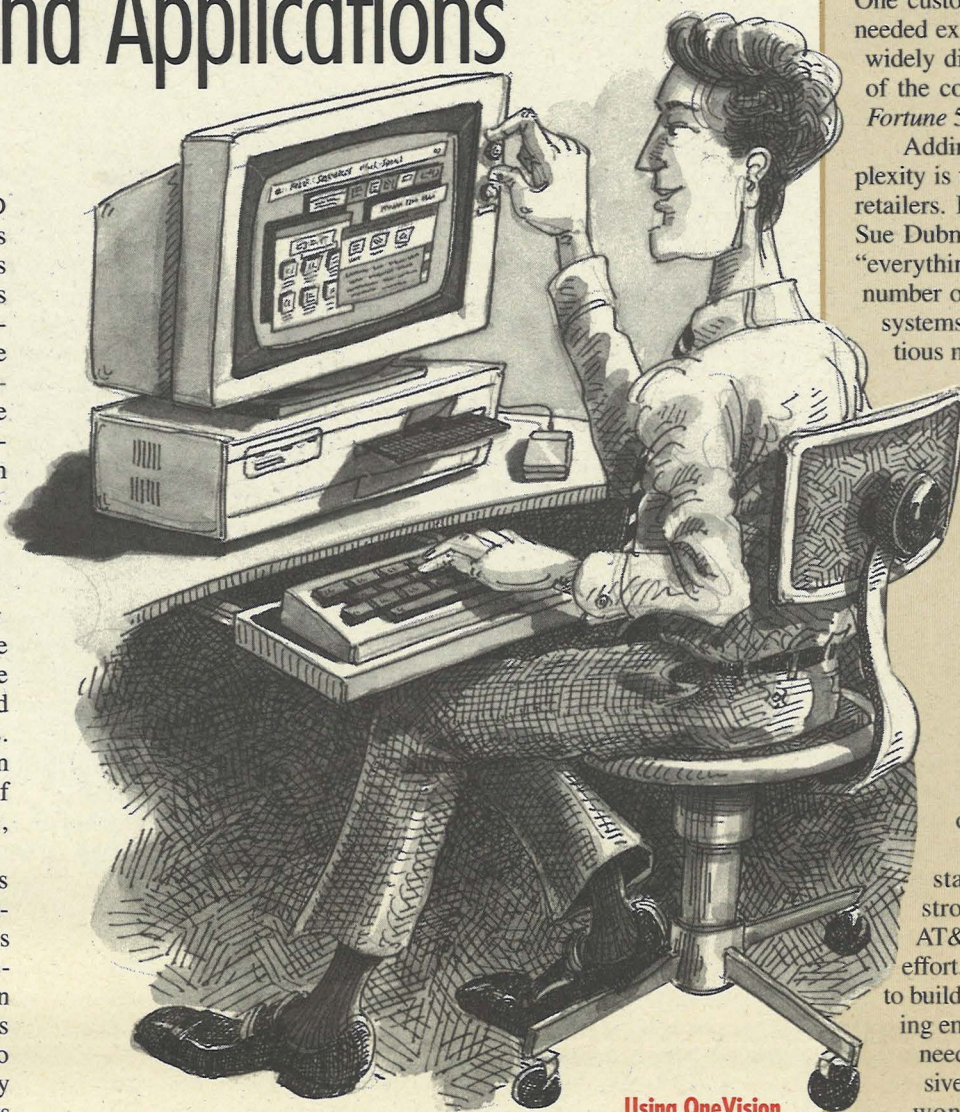
THE FEDERAL COMMUNICATIONS Commission (FCC) has adopted new regulations to curb the practice of slamming—switching consumers from one long-distance carrier to another without authorization. The changes, announced last month, strengthen the FCC's existing anti-slamming guidelines.

AT&T believes tens of thousands of customers are slammed each month, indicating that some companies were ignoring or abusing the guidelines.

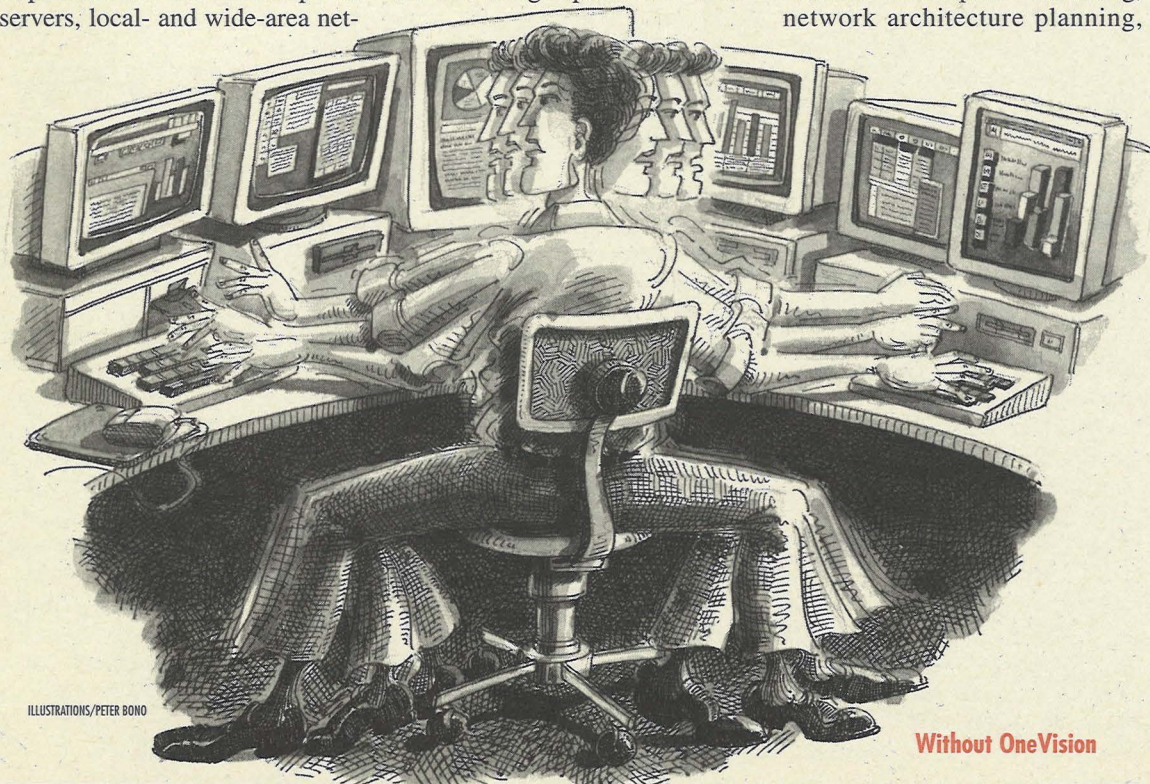
Under the new regulations, customers who receive higher bills after being slammed will have to pay only the amount their original carrier would have

charged for the same calls. Authorization forms that consumers sign to switch carriers must be clearly marked and kept separate from other promotional material. Checks can still be used to induce consumers to switch carriers, as long as the checks are clearly marked. Companies that resell long-distance services from AT&T or other carriers must make it clear that services are being provided by the reseller, not by the original carrier.

In a public statement, AT&T called the new regulations "well-balanced." The regulations will take effect 60 days after being published in the *Federal Register*. ■

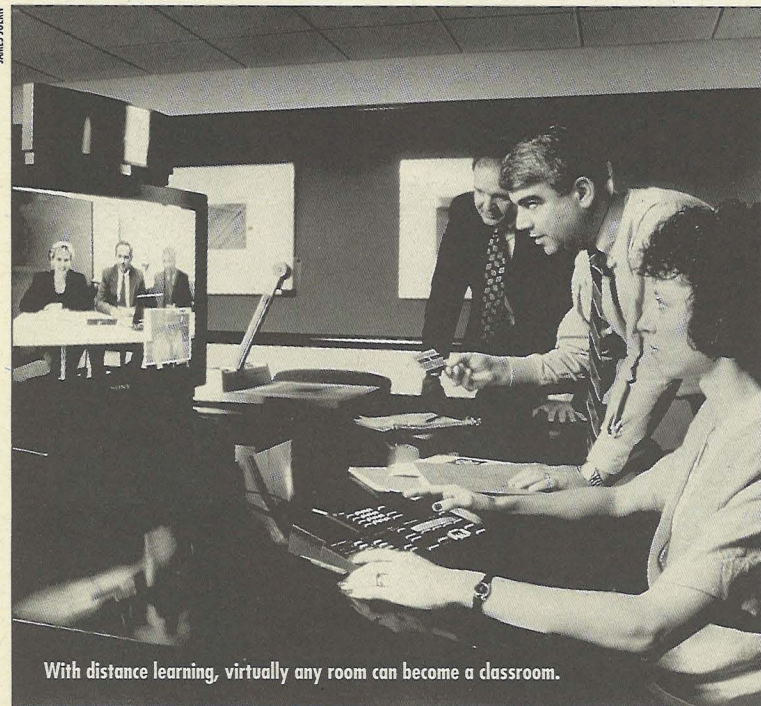


Using OneVision



Without OneVision

AT&T and Universities Promote Distance Learning



With distance learning, virtually any room can become a classroom.

BY TOM LANDERS

TEACHING STUDENTS TAKES a special skill. And teaching teachers, especially about distance learning, is even more demanding. To help in this area, AT&T has collaborated with three universities to offer a complete curriculum to broaden distance-learning training skills for AT&T's videoconferencing customers.

AT&T's Center for Excellence in Distance Learning (CEDL),

located in Cincinnati, and the Distance Learning Alliance members—Indiana University, Penn State University and the University of Wisconsin-Extension—last month announced "how to do it" workshops to make distance learning as effective as classroom learning for corporations and schools.

"In today's information age, learning is no longer confined within the four walls of a classroom. The instructor, armed with a textbook, is no longer the sole

source of the education experience. Information resources are everywhere, often separated from the learner by time and space," said Dr. Gary Miller, assistant vice president, Distance Education, Penn State University.

"These interactive workshops—ranging from basic to advanced—will provide the skills and knowledge needed to build successful distance-learning programs and to manage distance-learning systems," said Alan Chute, director, CEDL.

The CEDL core team is part of AT&T Global Business Communications Systems' Visual Communications Markets Group.

The work of the CEDL and the universities differentiates AT&T's distance-learning product and service offerings from the competition, and promotes the use of AT&T's products and services in the education and training marketplace. A 200-page implementation guidebook for distance learning will be offered separately.

In the first half of this year, the CEDL has conducted more than 80 distance-learning customer visits and presentations, addressing nearly 1,500 customers.

For more information on AT&T's Center for Excellence in Distance Learning and workshops, customers can call 800-590-CEDL. ■

Partnership Will Provide Internet Access to Business Customers

BY SUZANNE SIDHU

FROM FORTUNE 500 COMPANIES to startups, businesses around the world are preparing to dive into the Internet, a technical, social and, most recently, commercial network that has become a phenomenon.

AT&T and Bolt, Beranek and Newman (BBN) are making it easy for business customers to get in the swim with an agreement to offer a broad range of services that will allow reliable, safe access to the Internet. At present, BBN is the largest provider of managed Internet connectivity in the country. The company was an Internet pioneer, helping to develop the original network that linked university and government computers 25 years ago.

Companies are seeing entirely new ways of doing business by means of the Internet, with its global reach and its huge market. Use

jumped from an estimated 1 million in 1988 to more than 20 million today, with hundreds of thousands gaining access each month. "Internauts" are logging on from Thailand to Tennessee, with the network reaching 150 countries.

Given that reach, it's no surprise that nearly 22,000 commercial "domains," the cyberspace equivalent of storefronts, are officially registered with the Internet, up from 9,000 in 1991. More than 2,000 businesses sign up each month.

BBN Planet, a division of BBN, will consult with business customers, offering them managed connectivity to the Internet, World Wide Web site development, security, training and a host of other value-added services. The World Wide Web is the cyberspace business district, where businesses establish servers to operate a home page, the first screen of an electronic information site.

AT&T brings to the agreement its intelligent network, networking know-how, a knowledge of businesses' communications needs and a large base of business customers. Over time, the 12,000-person AT&T Business Communications Services sales force will be trained to sell the BBN Planet services.

"Our customers have been telling us they want easy but secure access to the Internet," said Tom Evslin, vice president, Gateway Services, an organization in the AT&T Consumer Services Group that provides access services, such as AT&T NetWare™ and Internet services. "However, they don't want to become experts to do this."

AT&T and BBN will begin providing services to business customers in selected markets on Aug. 1, and will make the services available nationally on Sept. 1. ■

GLOBAL VIEW

CANADA

WINNIPEG—NETWORK SYSTEMS CANADA has provided TRLabs (Telecommunications Research Laboratories) here with a *GlobeView* 2000 Broadband System to be used for research and development in the next generation high-speed networks and flexible broadband communications applications. The Asynchronous Transfer Mode (ATM) switch is the first of its kind in Canada. TRLabs is a research facility sponsored by 26 telecommunications and information technology companies, Canadian universities and the governments of Canada and several of its provinces. Its purpose is to help enhance Canada's telecommunications expertise and improve its international competitiveness.

CHINA

BEIJING—To meet the demand in China for information about the United States, the Directorate General of Telecoms (DGT) is launching a service called Audiotex that gives callers fast access to news about U.S. business in China and trade opportunities. Customers can dial 001-456-2893501 (in China) to get the information they desire 24 hours a day, seven days a week. Available in Mandarin, the service is accessed through long-distance dialing to the United States through cooperative efforts between DGT and AT&T.

INDIA

NEW DELHI—WIRELESS SERVICES (McCAW Cellular) and the Aditya V. Birla Group bid for cellular service licenses in three circles: Gujarat, Karnataka and Maharashtra. Service will be provided through Birla Communications Ltd., a joint venture company formed by AT&T and the Aditya V. Birla Group. Equity in the venture will be held 51 percent by the Birla Group and 49 percent by AT&T. In addition, AT&T Communications Services Group and the Birla Group announced a bid for basic service licenses in Delhi, Gujarat, Karnataka and Maharashtra. The two companies named the Philippine Long Distance Company (PLDT) as a partner in this alliance. Basic service will be provided through Birla Telecom Ltd., a joint venture formed by the three companies. Equity in the venture will be held 51 percent by Birla Group, 39 percent by AT&T and 10 percent by PLDT.

ITALY

ROME—NETWORK SYSTEMS GROUP—Telecom Italia is using BNS 2000 Broadband Switches to build a nationwide broadband network that will give business customers affordable, high-speed and reliable data services. Telecom Italia's service network, called C-LAN, will allow customers to link their multiple corporate networks over a public network service to perform as one seamless, "virtual" private network. C-LAN will use Frame Relay and Switched Multi-Megabit Data Service connectivity to support various business applications in the banking, manufacturing, transportation and R&D sectors.

UNITED KINGDOM

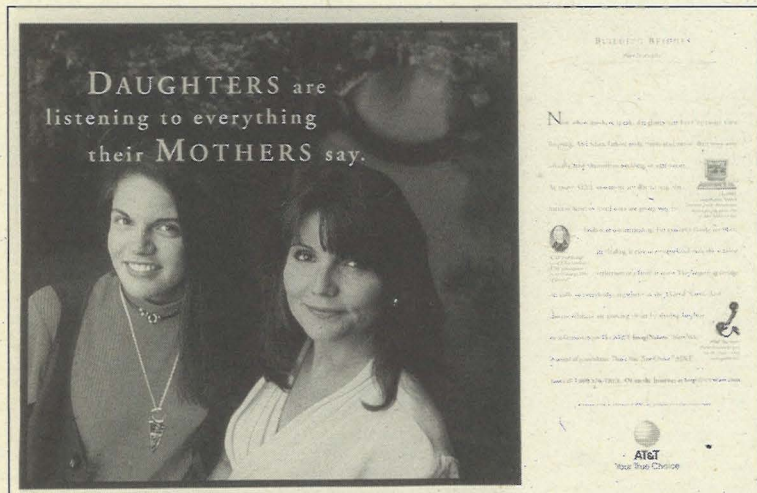
LONDON—AT&T is the carrier of choice among users of international leased lines communications services, according to *Data Communications International* magazine. The publication recently surveyed 2,500 readers in Europe, 1,500 in Asia and 500 in the United States, to find out what they thought about leading carriers, international value-added networks and outsourcing alliances. Readers were asked to rate carriers on the basis of Timeliness of Installation, Circuit Quality, Reliability, Speed and Accuracy of Reporting Faults, Speed and Quality of Repairs, and Billing.

In reporting the survey results in its May issue, the publication stated, "Users say AT&T is the best in the business for working closely with foreign PTTs to provision international circuits. This attention to detail lets AT&T deliver better uptime and transmission quality, while keeping users in the know about problems. The technical expertise of the AT&T staff also gets high praise from survey respondents."

AT&T also finished first "by a long shot" for packet switching and tied with Cable & Wireless PLC for managed networks. No awards were given in these two categories, however, due to low response.

CCS, CIS and CP Collaborate On Product, Service Offerings

continued from page 1



The *Your True Choice* campaign supports the introduction of the new and enhanced products and services. Various elements of the campaign will appear in newspapers, magazines and on TV.

and they want information anytime, anywhere.

"You can do that in many ways and we're starting with our relationships in long distance and broadening them to fulfill that need. We're doing it in a way that tries to make the relationship to the new technologies and the new services—the adoption of them by consumers—as comfortable and as easy as turning on your television set or dialing your telephone."

In other words, the company will be offering high technology and information services to the

very people who still may be anxious about programming a VCR. "We have a total of 80 million people using our services," Nacchio said. "But you don't have 80 million people out there on multimedia PCs."

But most of them do have telephones and televisions. "To be specific, you look at ways we're going to reach consumers: phones, televisions and personal computers," Nacchio said. "In two of the three categories you already have a fairly saturated use of the terminal." And if

AT&T can provide devices that access advanced services, and easy-to-use interfaces, customers will be more likely to use the AT&T Network—because at stake is how customers enter the network and how AT&T brands its services.

The new products and services include electronic bill paying on a personal computer or on a home TV screen; a two-line computer telephone that includes powerful call management features; productivity improvement for those who work at home; and voice-activated long-distance calling by speaking one of up to 20 names or places whose phone numbers are stored in the AT&T network (see "Introducing Communications Convenience at Your Fingertips").

The new "Your True Choice" advertising campaign kicked off June 6 and will run through 1995. The campaign—which includes print ads in newspapers and magazines, as well as advertising in movie theaters and on airplane flights—supports the introduction of the new and enhanced products and services, with special pricing and easy-to-use technology for a variety of lifestyles.

"People no longer have to exceed their grasp when they reach out for these new services. All the power of communications can be delivered when, where and how people want it," Nacchio said. ■

Business Phone Users In Asia/Pacific Region Get Wireless Freedom

By TOM LANDERS

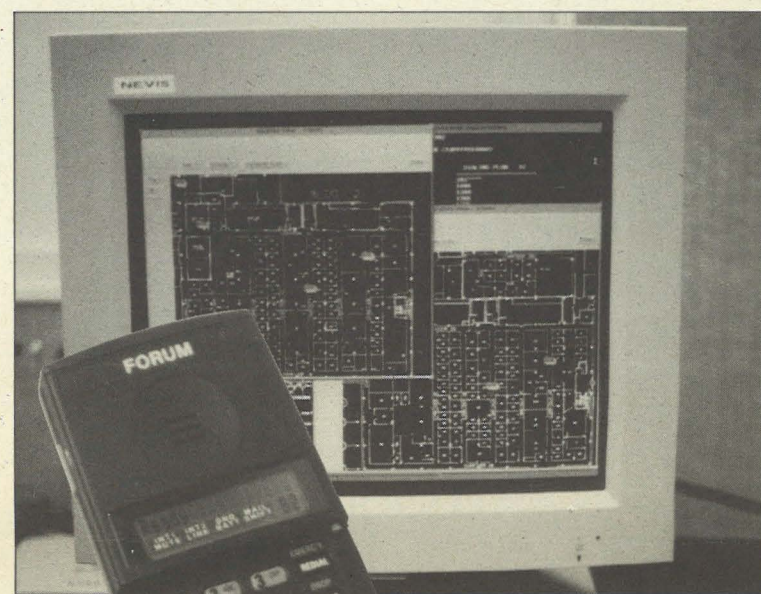
A trip to the copier, the boss's office, the mail room and to purchasing used to mean missed phone calls. Not anymore.

LOOKING TO GIVE BUSINESS phone users the same freedom of movement enjoyed by their residential counterparts, AT&T Global Business Communications Systems (GBCS) intro-

regional managing director, Singapore. "This is just one example of how AT&T improves its technology and offers its customers advantages that they can add to their existing systems."

No Barriers

Handling up to 500 users and covering an area of 3 million square meters—the equivalent of 42 floors in a high-rise building—



duced a new wireless phone system in June for the business environment in the Asia/Pacific Region. Called the FORUM Personal Communications Manager (PCM), the system combines the features of a desk system with the flexibility of a cordless phone.

But the system is aimed at more than just convenience. Studies have shown that up to 50 percent of a typical business person's time is spent away from the desk, so portable work phones mean a marked increase in productivity through fewer missed calls.

Enhancing Customer Investment

Perhaps more important from a business standpoint, the FORUM PCM, which works with the AT&T DEFINITY Communications System, allows callers to make and answer calls on two lines, to speed dial, to access voice mail, and to transfer, conference or place calls on hold, all via a six-ounce pocket phone.

"We are enhancing our customers' investment in our PBX," said Steve Caldwell, Asia/Pacific

With portable pocket business phones, workers can go from office to office without missing calls. As they do, a FORUM system workstation tracks the location and status of all pocket phones, ensuring reliability and security.

the system uses up to 127 base stations placed on interior walls to hand over the calls as the

pocket phones are carried throughout the building, so conversations continue without interruption. The system is available in Australia, New Zealand, Singapore and Taiwan. It will be offered soon in Hong Kong. A similar system will be introduced in the United States later this year.

Development of the FORUM PCM was done by AT&T Wireless Communication Products in the United Kingdom, the GBGS Wireless and Mobility aligned business team of Denver, and an Australian team led by GBGS Country Manager Tim Wilson, with initial trial software development led by Microcell Systems, Pty. Ltd. of Australia. The production processes for AT&T's wireless products have undergone ISO 9000 certification, a globally recognized standard of quality. ■

Introducing Communications Convenience at Your Fingertips

Headlining the products and services are the introduction of *CheckFree* Services through the HomeCenter system and the AT&T Computer Telephone 8130. AT&T customers will be rewarded for their loyalty with discounts on most of the new products and services.

AT&T CheckFree Service—allows customers to pay bills electronically with their PCs or with a click of a television remote through the HomeCenter, a set-top box that turns the television into a digital answering machine. In addition, customers can use the HomeCenter to subscribe to services that provide information about news, sports, weather, traffic, stocks, and TV listings.

AT&T Computer Telephone 8130—a two-line speakerphone for home offices that connects directly to a PC. It increases productivity by freeing consumers to take or retrieve notes easily from their computers while talking on the phone. Unlike integrated computer telephone systems, the model 8130 phone can be used separately as a conventional telephone. The Computer Telephone can store up to 5,000 names and phone numbers, can be integrated with Caller ID service to display a caller's phone number on a computer screen, and linked to a database or personal directory, making it possible to access stored notes and files. Other products, services and enhancements include:

AT&T FlashPoint wireless pager—available later this summer, the smallest full-display alphanumeric device in the United States and the only receiver of its kind capable of displaying graphics.

AT&T Imagination Network Version 2.4—features 10 new multi-player games.

AT&T VoiceLine Service—allows customers to dial an 800 number, enter their AT&T Calling Card number, and speak the name of the person they're calling to have the AT&T network make the connection.

AT&T International Redial—expanded to include 46 additional countries in 18 additional languages, bringing the total number of countries available to 66 in a choice of 32 different languages.

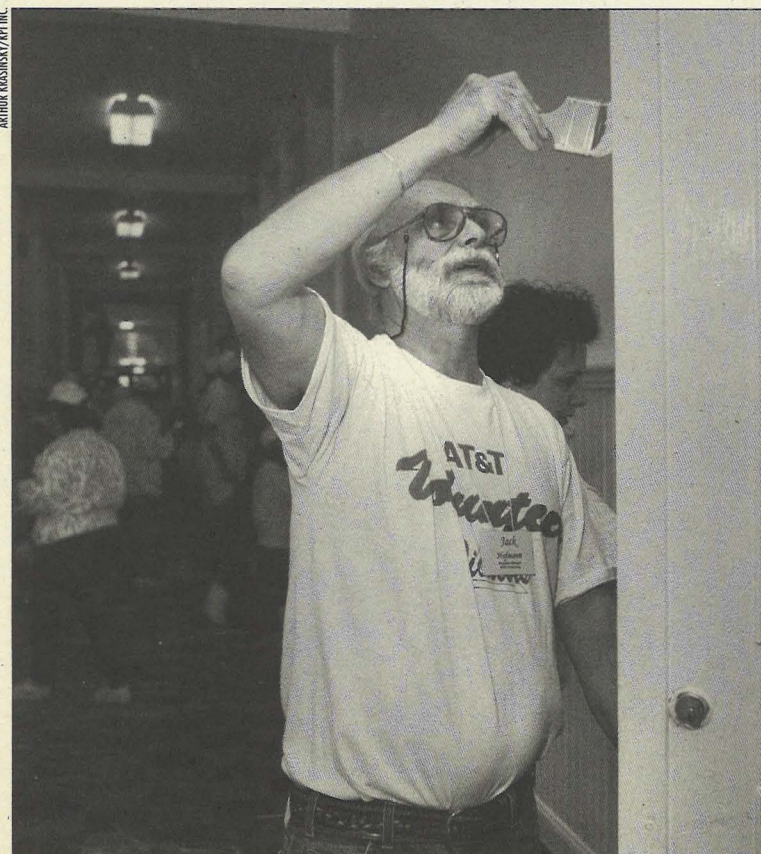
Time Manager—an enhancement to AT&T *True Connections* available this summer, allows 500-number users to schedule in advance where they want their calls to ring.

Enhancements to the AT&T Worldwide Intelligent Network—will restore domestic long-distance phone service in less than a second if a cable is cut. Other upgrades already installed more than double the network's call-handling capacity at each major switching center. (See story page 3.)

AT&T Home Business Resources—a program for home-based businesses and people who work from home. Program members receive special promotional offers on telephones, computers, software, modems and answering machines. Those who enroll in AT&T calling plans receive savings on long-distance calls.



Pioneers Are Changing Strategy To Align with BUs & Divisions



Jack Hofmann, district manager, AT&T Pioneer staff, Morristown, N.J., paints trim as he and other Pioneers prepare a building for New Jersey pre-schoolers.

BY SUZANNE SIDHU

A FEW YEARS AGO, THE Telephone Pioneers of America seemed stuck in the mud: their structure was unwieldy, their budgets were being cut every year, and membership growth was flat.

But re-engineering is giving the venerable 84-year-old organization—often called the world's best-kept secret—a dynamic new look and a revitalized purpose. In response to organizational studies and stakeholder surveys, the group has decided it must focus on the needs of its customers, which are the communities it serves, on its active and retired members, and on the corporation that sponsors it—AT&T.

Clearer Focus

Led by AT&T Pioneer Vice President Barbara Curcio, AT&T Pioneers are making a lot of changes as a result of this clearer focus. Two years ago, members eliminated service requirements (originally 21 years), opening up membership to even the newest AT&T employee. Pioneers are streamlining their logo and their name, simplifying it to "AT&T Pioneers." They're going global, and have made contacts with AT&T units in the United Kingdom, the Netherlands, Poland, Puerto Rico, Mexico and Japan. They've restructured chapters, regions and staff for more efficient operations. But most impor-

"If Pioneers received salaries for the work they do ... the payroll would approach \$46 million."

—Barbara Curcio

tant, they're aligning their activities more closely with AT&T business units and divisions.

"Right now we can support the corporation's goals in two ways," Curcio said. "We can enhance AT&T's visibility in the communities we serve, and we can help promote the values of Our Common Bond."

An Important Resource

With the advent of local competition, community involvement is taking on new importance, and has been made a piece of the company's diversity strategy. AT&T's 200,000 Pioneers are in a unique position to help carry out that strategy because they put in close to 4 million hours of service annually on 2,000 community projects.

"If Pioneers received salaries for the work they do," Curcio said, "the payroll would approach \$46 million."

Because they know their communities well, Pioneers are an important resource for the Community Involvement Councils created in March. The councils are developing plans for community projects that will not only benefit people, but extend AT&T's name into local areas.

Team-building Opportunities

The Pioneers' second thrust will be to promote Our Common Bond values. They believe their work reinforces the five values, particularly teamwork.

"There's no team-building experience more effective than standing beside someone you work with to paint or clean or build," Curcio said. "If you didn't know them well before, you will when you're done. We hope when AT&T managers plan team-building experiences for their groups, they'll check with us first, to find out what's available."

Opportunities for meaningful experiences abound, and it's not necessary to be a member to participate. Volunteers are going at some of the toughest problems around. They're counseling abuse victims in Virginia, building a meeting area onto a halfway house for AIDS patients in New Jersey, and maintaining an ecology study center on the Chesapeake Bay.

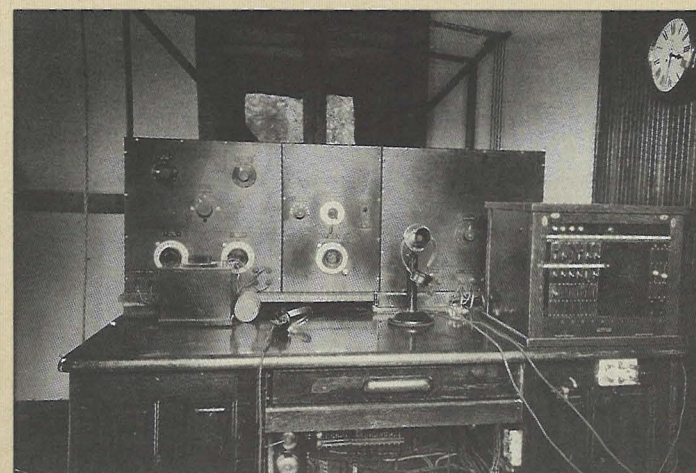
In May, AT&T Human Resources Vice President Hal Burlingame took advantage of a Pioneer team-building opportunity when he and his management group helped refurbish a building that will house Long Branch, N.J.'s first pre-school program for "at-risk" children. Because of volunteer help and private donations, the program will cost parents and taxpayers nothing.

The project was part of the rollout of the new Pioneer strategy at a meeting of the newly formed Region 17, which includes territory from New York to Louisiana. Curcio and her team are presenting the new customer focus at Pioneer regional meetings around the country, hoping to influence even those regions which are a blend of Pioneers from various telecommunications companies to look to their customers.

With their new look and focus, AT&T Pioneers predict an era of growth and accomplishment.

To find out more about joining the Pioneers or volunteering for their projects, call Steu Varelli at 201-898-2982. ■

HOW IT BEGAN



In July 1920, this receiver and terminal provided the first commercial application of radio in the telephone network, connecting Catalina Island, Calif. with the mainland.

Radio Provided Early Wireless Link

BY SHELDON HOCHHEISER

WIRELESS TECHNOLOGY HAS BEEN AN IMPORTANT part of AT&T's network for 75 years. In June 1920 AT&T used a radio link to connect the telephones on Catalina Island, Calif., with those on the mainland 30 miles away. The company turned to this innovative technology because copper—needed for a cable—was still in short supply after World War I.

The single telephone circuit provided 1,000 residents and the 20,000 summer visitors to the island with access to every telephone in North America. As the westernmost point in the AT&T network, the Catalina Island radio took part in the longest telephone circuit to date, stretching 5,600 miles to Havana. The radio link operated for three years, until the company replaced it in June 1923 with a deep sea cable. Today, wireless circuits, ranging from satellite communications to cellular transmission, play integral roles in the AT&T Worldwide Intelligent Network.

The AT&T Archives preserves the past by collecting the present. Call 908-756-1586 before you discard photos, brochures, documents, AT&T products or prototypes.

LEGISLATIVE UPDATE

Senate Passes Bill; House To Vote Later

BY OLLIE HARTSFIELD

AFTER MONTHS OF DELIBERATION, the Senate passed legislation last month that will massively overhaul the telecommunications law of 1934. The bill allows local telephone companies to offer long-distance service once they have met several requirements for opening local competition. But it does not include a proposal, supported by AT&T and other long-distance carriers, that would have required the Justice Department to determine whether the local competition actually exists after the requirements are met.

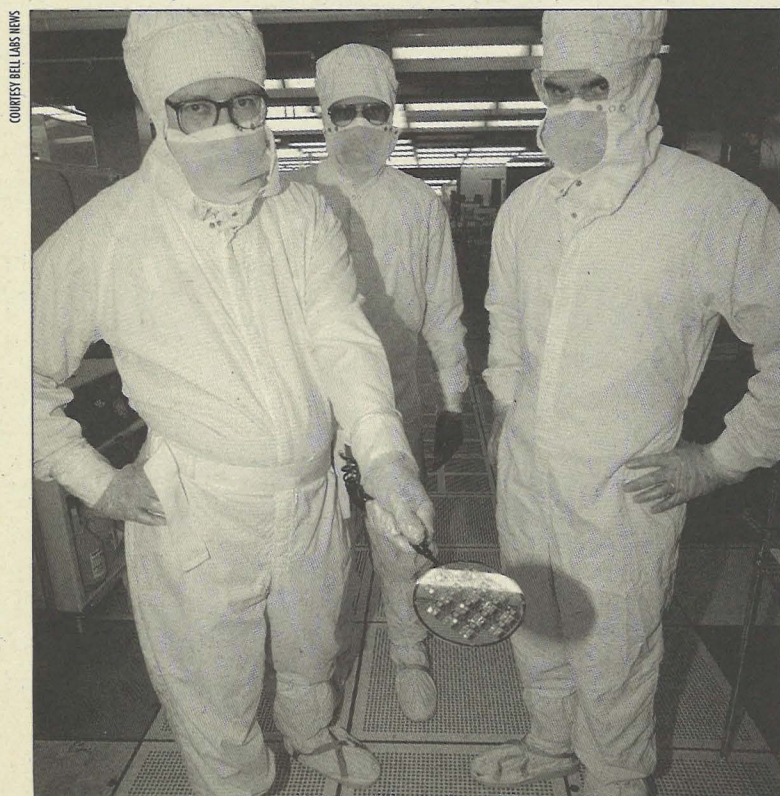
According to Jerry Lowrie, senior vice-president, Federal Government Affairs, "the bill falls far short of requiring that real local phone competition exists before the Bell companies can use their monopoly muscle to disadvantage long-distance customers and competitors."

But, it's not over yet. The House of Representatives is likely to vote on its own version of a bill this month.

The Bliley-Fields bill, H.R. 1555, gets it right. It lays out a set of well-defined, well-supervised conditions for creating real local competition. It requires that an actual competitor to the Bell monopoly must be operating in a local market before the Bell company can enter the competitive long-distance market, and it requires the Bell companies to sell local services to potential competitors at prices that make it economically feasible for those competitors to enter the local market as resellers.

Employees are urged to contact their member of the House of Representatives. Ask him or her to preserve the pro-consumer, pro-competitive provisions of H.R. 1555. For the name and address of your U.S. representative and a sample letter, call 800-225-7291. ■

AT&T, NEC Begin 2nd Phase Of Joint Logic Chip Research



Standing in the clean room at AT&T Bell Laboratories in Murray Hill, N.J., Bill Mansfield, left, Fred Klemens, and Mark Pinto are part of a joint effort between AT&T and NEC to develop a chip that is smaller and faster than today's most advanced chips.

BY OLLIE HARTSFIELD

AT&T MICROELECTRONICS and NEC Corporation, one of the world's leading electronics companies, have confirmed what most of us were taught as children: sharing is good.

Microelectronics and NEC have begun the second phase of a joint research agreement to develop logic chips that are faster and four times smaller than today's

most advanced chips. The chips, used in computers and communications equipment, will contain components as small as 0.25 microns. (By comparison, a human hair is about 60 microns in diameter.) The most advanced chips currently in use have components as small as 0.50 microns. Both companies hope to complete the development by the end of next year, and expect to have 0.25-micron chips in production in 1997.

By doing so, both companies get more for their money.

"In today's world, it makes a great deal of sense for companies like ours to pool our R&D talent to attack common engineering problems," says Hajime Sasaki, executive vice president, NEC. "Not only does it lower the cost for each company, but it allows the risks to be shared as well."

AT&T and NEC have a history of cooperation. NEC was established in 1899 as a joint venture between Western Electric and Japanese business interests. In 1925, NEC was a part of AT&T's divestiture of overseas operations. Microelectronics and the Japanese company have been cooperating in the semiconductor field since 1990. The two companies agreed in 1991 to develop a common process for manufacturing 0.35-micron chips using a technology called the Complementary Metal Oxide Semiconductor process. That agreement was the foundation for the current 0.25-micron research effort.

But new technology hasn't been the only result of the cooperative effort.

"We not only worked together to develop these processes, which saved time and money in the development process, but we learned about each other's work styles and habits, worked as a team and benefitted from the best of both companies," says Jim Clemens, head, Very Large Scale Integration Research department, AT&T Bell Laboratories. Clemens, who coordinates much of the research and development effort between AT&T and NEC says the productivity in the projects has more than doubled. ■

—WITH CONTRIBUTING WRITER
PAUL CIOTTA

Unions Will Vote on New Contract

continued from page 1

- Build on the Shares for Growth program, also begun in 1992, which gives employees a long-term stake in AT&T's success.
- Strengthen employees' families by renewing the company's family and child/elder care initiatives.
- Increase the number of company-funded college scholarships for employees' daughters and sons.

The last weekend in June, AT&T, the CWA and the IBEW reached tentative agreement on local issues. Union ratification of both the national and local agreements is expected by Aug. 1.

Upon ratification by the union members, the new contract will increase wages, pensions and other compensation, expand and improve health care coverage for both active and retired employees, and create a range of choices retirees can make to cover their medical costs.

If ratified, the new contract will cover 101,000 CWA and IBEW members in the United

States retroactive to May 28, 1995, and through May 30, 1998.

Bill Ketchum, AT&T vice president, Labor Relations, called the talks "the most objective and focused labor negotiations in AT&T's recent history."

"The parties fulfilled the vision that AT&T and the unions conceived in 1992 with a 'Workplace of the Future' concept," said Ketchum. "It sets aside the old adversarial model of union-management relationships. Instead, it invokes a new model characterized by common goals and a shared commitment to strengthen AT&T. Success in the marketplace is the only way to create real job security."

The tentative agreement calls for salary increases at the top of each wage schedule to add up to a total of 10.5 percent over the three-year contract. Also, each full-time employee covered by the agreement will receive \$3,400 in additional compensation.

The prospective contract also includes a plan starting July 1, 1996, through which employees can allocate up to 10 percent of their salary to the purchase of AT&T stock at a 15 percent discount. The company will cover any brokerage commissions associated with the purchase of this stock. This new plan, which will be available to all AT&T employees around the world, will offer a way for individuals to save.

Under the proposed agreement, the company will increase the current value of the pension bands in the non-management employee pension plan by 12 percent, effective July 1, 1995, for those retiring on or after May 28, 1995.

After salaries and pensions, the most extensive changes are expansion and improvement of the health care benefits available to employees under managed health-care networks and the extension of those networks to retired employees. Under the accord, networks will be established or extended for medical care; mental-health and chemical-dependency treatment; and for prescription drugs. ■

LETTERS

LEAGUE AWARENESS

I was gratified to see the fair and effective coverage of LEAGUE and lesbian, bisexual and gay issues in the workplace. It gives me great pride in working for a corporation willing to address issues such as this. Through education, ignorance, stereotypes and fear will be eliminated. Perhaps the irrational hate will diminish as well.

MICHAEL ALBERT, SAN FRANCISCO

I wanted to thank you for the wonderful article, "LEAGUE Meeting Tackles Sensitive Workplace Issues," with Margaret Burd and John Klenert. To many employees who are not in a position to receive this type of corporate recognition on a regular basis, your article reaches out and provides emotional support that often helps them get through another day. I appreciate not only this but all diversity-related articles that show the real "face" of AT&T.

DAN SULLIVAN, NEW YORK

TAKE YOUR DAUGHTER TO WORK

I have to respond to Tony Smith's comments about his 2-year-old son not knowing about gender discrimination. If his statement is true, I applaud Tony for his efforts to show his son the world that could be, but I find it hard to believe. I'm sure Tony's son sees examples every day of men occupied in many endeavors considered to be traditionally male, while he sees few women in those endeavors. Society gives girls and women the same message over and over—there are "men's jobs" and "women's jobs." This is particularly easy to see in TV shows, advertising and cartoons. While doors have opened for women and things have changed some over the years thanks to affirmative action, girls still lack the role models so abundant for boys.

DALE BLODGETT, ANDOVER, MASS.

Hey, what's all the bickering about? Can't we all just get along? Next year, let's call it "Take Your Kids to Work Day." I think the point of the day is for children to see where we go off to every day and what we do when we get there. Perhaps the original purpose was to inform girls that they could and had the right to pursue corporate careers. Today, though, I think most girls are savvy enough to know that all doors are open to them in America—from astronaut to corporate president. It's 1995—let's not quibble over gender. Live the values.

PATRICIA STEWART, BASKING RIDGE, N.J.

READERS' REACTIONS

I rank *AT&T News* amongst the best of similar publications in my library, including *Newsweek* and *Business Week*. The articles are well written and informative, they give me a broader perspective of the corporation and what's going on inside and outside that impact it. The format and style are easy to read and the articles are easy to understand and to the point. In addition to the *News'* technical excellence, the June 1995 issue touched me at the emotional level. The articles made me proud of the accomplishments of my AT&T teammates. It's great to see the positive things being publicized. I'm proud to say that *AT&T News* is an AT&T publication.

JOE KUCHARSKI, LISLE, ILL.

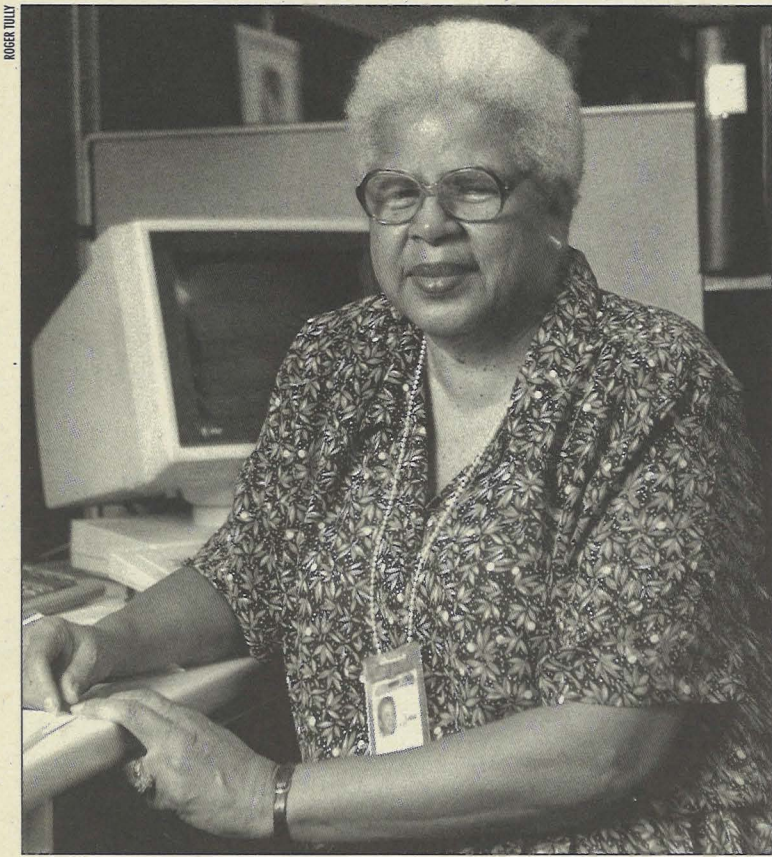
I've just had the opportunity to read through your June edition. This is incredible! There are so many significant and wonderful things going on in AT&T! I don't remember a previous AT&T publication that was this informative. This medium (I receive *AT&T News* electronically) is excellent at getting the word out. Keep up the good work.

GARY ROBBINS, CINCINNATI

CREDIT WHERE CREDIT'S DUE

Your story, "NSD Replaces Tower Toppled by Texas Tornado," (June) had some errors. The building of restoration towers is done solely by AT&T Construction. I was the first person from Construction to arrive at the site at 5 a.m. The rest of the crew arrived throughout the day and into the evening. Many men worked all day and late into the next morning before taking a break. The following day we returned to the site and completed the tower. We then turned it over to operations to restore service to the route. Your article makes no mention of the folks that did that part of the restoration. Yes, the NSD Disaster Recovery Team does restore buildings and inside equipment, but Construction builds the towers, raceway and runs in the new cables.

GENE GEREN, NAPERVILLE, ILL.



In her 50-year career, Lorraine Turner has seen many changes.

Payroll Analyst Reminisces On 50 Years of Service

By TAWNIA CLEVELAND

WHEN LORRAINE TURNER began working for the Bell System in 1944, a well-balanced lunch cost about 35 cents and a cup of coffee cost as little as a nickel. The country was nearing the end of war, and AT&T was gearing up for post-war boom. Indeed, Turner—a payroll analyst in the Tax Analysis group, Chief Financial Officer Organization, Alpharetta, Ga., who will retire in July—has seen many changes throughout her 50-year career.

She recalls walking up and down 33 flights of stairs tens of times a day to deliver urgent messages...

Turner—then Lorraine Shelton—started as a messenger for the payroll department at New York Telephone Company in Manhattan. With no fax machines, e-mail, or AUDIX at her disposal, Turner did lots of leg-work. She recalls walking up and down 33 flights of stairs tens of times a day to deliver urgent messages that needed to go to

employees all over the building. "Even when I was sleeping, I dreamt I was walking," Turner chuckles. Since she had to deliver to every floor, she says taking the stairs was a lot faster than taking the elevator.

The office then was a different place. "All we had was a typewriter, an adding machine and a telephone," Turner remembers. Making copies was a lot like developing film. "It was so messy," she says. "You had to wear gloves—it was awful. You had to hang the copies up to dry."

Eventually Turner moved on to bookkeeping positions at AT&T in White Plains, N.Y., and in Alpharetta. From employee stocks and bonds, to pensions, to payroll, Turner helped keep the books balanced and in order.

Though the computer age made work more efficient and more accurate, Turner admits that she resisted technology at first. "I told my daughter, 'I'll never use a PC,'" she says. "But she told me, 'Yes, you will, Ma.' And sure enough, I'm using it. It's not so bad."

Turner still appreciates the basics. "People often think filing is a dirty word," she says. "But I enjoy filing. If you don't file, you can't find anything."

For Turner, retirement is an opportunity to travel. She plans to visit her son in Connecticut and her daughter in California and travel abroad.

She also gains membership in a very exclusive group. Of AT&T's 141,231 living retirees, only 50 have served for 50 years or more. Turner becomes the 51st. ■

Bonta, Finley Honored For Lifesaving Actions

By TOM LANDERS

JUST LIKE COMPETITIVE swimmers, Karen Bonta and Tom Finley went for a dip last year and ended up with silver medals. No, not in the 100-meter freestyle, but in an event so dangerous it's not even part of the Olympic Games: lifesaving.

Bonta, an AT&T Global Business Communications Systems sales representative in Atlanta, and Finley, an industrial hygiene instrumentation specialist, AT&T Bell Laboratories, Holmdel, N.J., each received a Silver Vail Medal and a \$10,000 cash award for their heroism. Bonta rescued a co-worker who nearly drowned during a company outing last August. Finley went swimming at a beach in Puerto Rico last November and ended up saving the life of a man who came dangerously close to drowning and—along with Finley—being dashed on a rock jetty.

A Cool Head

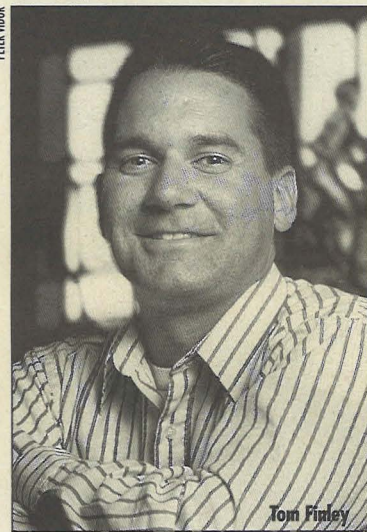
Bonta, who has been with AT&T 12 years, was on a houseboat in the middle of Lake Lanier, northeast of Atlanta, as part of a team recognition celebration. She and a co-worker decided to take a swim after lunch. Within a few minutes, her co-worker began flailing and gasping for breath because of fatigue and leg cramps. By the time Bonta swam to him, the man was in danger. After being forced

under water by the man's weight on her shoulders, Bonta was able to bring him to the water's surface and support his head.

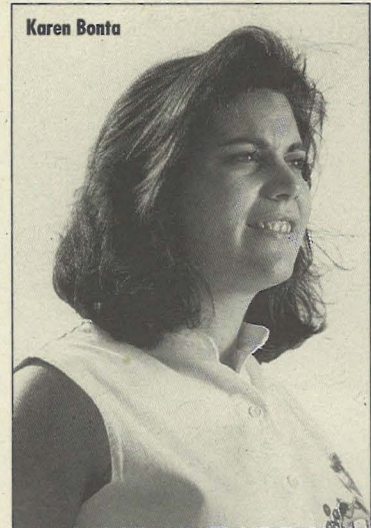
"By then, the boat had turned around and was coming toward us," said Bonta. "They threw life vests for us, and I immediately gave one to him and swam to the side of the boat."

Fate Lends a Hand

It was by chance that Finley happened to be in a position to help. "The beach adjacent to the condo where I was staying was closed, so I went to another one," recalled Finley. There, Finley noticed two swimmers who appeared to be snorkeling. Realizing that one was holding the other, Finley swam toward them. One man was unconscious,



Tom Finley



Karen Bonta

and the other panicked and swam away, leaving only Finley to help. His rescue efforts were compounded by a rip tide, the unconscious man's weight (approximately 100 pounds more than Finley's), suntan oil on both swimmers, and a five-foot high rock jetty that the waves carried them into.

After being scraped on the jetty, Finley swam with the victim toward the shore, where a bystander helped him carry the man onto the beach. "I didn't realize the impact of what I had done until I was back on land and it suddenly hit me," said Finley, who has been with AT&T two years. ■

Computers Go to Colleges

AT&T WILL DONATE MULTIMEDIA COMPUTER LABORATORIES valued at more than \$3 million to 30 colleges and universities throughout the United States. The computer networks will be used to enrich learning experiences for college students, faculty and others in surrounding communities. The awards are being made through the AT&T University Equipment Donation Program, an invitational program that has contributed more than \$295 million worth of computer equipment to colleges and universities since it began in 1984. The computers are manufactured by AT&T Global Information Solutions. To receive a list of recipients call Florence Kozerski, 212-841-4655, e-mail !fekozerki. ■



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